

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>S1680159</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, Item 5 below.	
International application No. <b>PCT/CA 03/01216</b>	International filing date (day/month/year) <b>11/08/2003</b>	(Earliest) Priority Date (day/month/year) <b>09/08/2002</b> ✓
Applicant  <b>SIMON FRASER UNIVERSITY</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

### 1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

1  
☐ None of the figures.

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/03/01216

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C09K9/02 C08G61/12 C08G61/02 C07D333/12 C07D333/28  
C07D333/40 C07D495/04 //(C07D495/04, 333:00, 333:00)

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 C09K C08G C07D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data, BEILSTEIN Data, CHEM ABS Data, BIOSIS

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X, P	PETERS A ET AL: "ELECTROCHEMICALLY INDUCED RING-CLOSING OF PHOTOCHROMIC 1,2-DITHIENYLCYCLOPENTENES" CHEMICAL COMMUNICATIONS - CHEMCOM, ROYAL SOCIETY OF CHEMISTRY, GB, 2003, pages 954-955, XP002265875 ISSN: 1359-7345	1-16, 23-25
P, A	cited in the application the whole document  --- -/--	17-22, 26, 27

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*Z\* document member of the same patent family

Date of the actual completion of the international search

7 January 2004

Date of mailing of the international search report

27/01/2004

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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/03/01216

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	GILAT S L ET AL: "LIGHT-TRIGGERED ELECTRICAL AND OPTICAL SWITCHING DEVICES" JOURNAL OF THE CHEMICAL SOCIETY, CHEMICAL COMMUNICATIONS, CHEMICAL SOCIETY. LETCHWORTH, GB, 1993, pages 1439-1442, XP002062334 ISSN: 0022-4936	1-16, 23-25
A	scheme 2 page 1441, left-hand column, paragraph 2 -right-hand column, paragraph 3; figures 1,3 page 1442, left-hand column, paragraph 1	17-22, 26,27
Y	FRAYSSE, SANDRINE ET AL: "Synthesis and properties of dinuclear complexes with a photochromic bridge: an intervalence electron transfer switching "on" and "off" EUROPEAN JOURNAL OF INORGANIC CHEMISTRY ( 2000 ), (7), 1581-1590 , XP002265812	1-16, 23-25
A	footnote 24 page 1582, left-hand column, paragraph 2; figure 1B; examples 12,12A	17-22, 26,27
Y	UCHIDA K ET AL: "PHOTOCHROMISM OF DIARYLETHENES ON POROUS ALUMINIUM OXIDE: FATIGUE RESISTANCE AND REDOX POTENTIALS OF THE PHOTOCROMES" CHEMISTRY LETTERS, THE CHEMICAL SOCIETY OF JAPAN, vol. 4, 2001, pages 366-367, XP009023460 page 367, left-hand column; figure 2; examples 1B,2B	1-16, 23-25
Y	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 11, 30 September 1998 (1998-09-30) -& JP 10 152679 A (MITA IND CO LTD), 9 June 1998 (1998-06-09) abstract claim 1; figure 5; examples	1-16, 23-25
Y	IRIE M ET AL: "Photochromism of Diarylethenes Having Thiophene Oligomers as the Aryl Groups" TETRAHEDRON, ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM, NL, vol. 53, no. 36, 8 September 1997 (1997-09-08), pages 12263-12271, XP004106080 ISSN: 0040-4020 scheme 1 page 12263, line 3, paragraph 1; examples 4,5,7	1-16, 23-25

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International Application No

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 02 06361 A (UNIV FRASER SIMON ; BRANDA NEIL R (CA); MYLES ANDREW J (CA)) 24 January 2002 (2002-01-24) cited in the application	1-16, 23-25
A	products 3 to 8, 10, 13 page 5, last paragraph -page 6, line 15; figures 1,3,4	17-22, 26,27
Y	--- PATENT ABSTRACTS OF JAPAN vol. 1996, no. 09, 30 September 1996 (1996-09-30) -& JP 08 119963 A (IRIE MASAHIRO), 14 May 1996 (1996-05-14) abstract page 3; examples	1-16, 23-25
Y	--- NORSTEN, TYLER B. ET AL: "Photoregulation of Fluorescence in a Porphyrinic Dithienylethene Photochrome" JOURNAL OF THE AMERICAN CHEMICAL SOCIETY ( 2001 ), 123(8), 1784-1785 , XP002265813 scheme 1 page 1784, left-hand column, paragraph 2 -----	1-16, 23-25

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/03/01216

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
JP 10152679	A	09-06-1998	NONE	
WO 0206361	A	24-01-2002	AU 7561801 A WO 0206361 A2 CA 2416016 A1	30-01-2002 24-01-2002 24-01-2002
JP 08119963	A	14-05-1996	NONE	